# CLAIMS

1. A recording medium characterized in that a track is divided into a first area that is continuously wobbled by a first wobble of a specific carrier wave cycle, and a second area that is wobbled by a second wobble that has a cycle different from said first wobble and a phase determined in response to data 0 and data 1 of information stored by a wobble.

2. Recording medium according to claim 1, wherein said second wobble is assigned to phases that are different by 180 degrees, respectively, in response to the data 0 and the data 1 of the information stored by the wobble.

3. A recording medium characterized in that a track is divided into a first area that is continuously wobbled by a first wobble of a specific carrier wave cycle, a second wobble that has a cycle different from said first wobble and a phase determined in response to data 0 and data 1 of information stored by a wobble, and a second area in which a generating position of said second wobble is also determined in response to said information.

4. The recording medium according to claim 3, wherein a relative generating position of said second wobble is changed by a length of the second wobble in accordance with data 0 and data 1 of the information stored by the wobble, and are assigned to phases that are different from each other by 180 degrees.

5. The recording medium according to claim 1, wherein a cycle of said second wobble is an integral multiple of a carrier wave cycle.

6. The recording medium according to claim 1, wherein a cycle of said second wobble is twice a carrier wave cycle.

7. The recording medium according to claim 1, wherein a length of said second wobble is twice a carrier wave cycle.

8. The recording medium according to claim 1, wherein a third area containing a third wobble is formed, the third wobble being distinguishable from said first wobble and said second wobble.

9. The recording medium according to claim 8,

wherein the third wobble has the carrier wave cycle and has a form having a phase different from the first wobble by 180 degrees.

10. The recording medium according to claim 8, wherein said third area is arranged immediately before said second area.

11. The recording medium according to claim 8, wherein said first area is arranged immediately before said third area.

12. The recording medium according to claim 11, wherein a length of the first area arranged immediately before said third area is equal to or more than five times the carrier wave cycle.

13. The recording medium according to claim 8, wherein said third area is arranged at a fixed interval, and said second area is arranged intermittently and adjacent to said third area.

14. The recording medium according to claim 13, wherein a length of the third area located adjacent to said second area and a length of the third wobble of

the third area arranged independently and separately from the second area are different.

15. The recording medium according to claim 1, wherein a number of wobbles between said second wobbles is an even number on the basis of the carrier wave as a reference.

16. The recording medium according to claim 1, wherein a number of wobbles between said second areas is an odd number on the basis of the carrier wave, and a polarity of the information stored in the second area is reversed alternately for each second area and recorded.

17. The recording medium according to claim 1, wherein a number of wobbles between said third areas is equal to or more than ten times a length of a sum of a length of the second area and a length of the third area on the basis of the carrier wave as a reference.

18. The recording medium according to claim 8, wherein a fourth wobble is arranged in a fourth area located at a position separate from said third area by a predetermined carrier wave cycle, a phase and the a generating position of the fourth wobble being fixed

irrespective the information stored by the wobble, the fourth wobble having a twice cycle and a twice length of the carrier wave cycle.

19. A recording medium characterized in that a track is divided into a first area continuously wobbled by a first wobble of a specific carrier wave wobble, a third area containing a third wobble that has the same cycle as said first wobble and has a phase different from said first wobble by 180 degrees, the third area having a length four times said specific carrier wave cycle, and a second area including a second wobble having a twice cycle and a twice length of said specific carrier wave and assigned to phases different by 180 degrees, respectively, in response to data 0 and data 1 of information stored by a wobble, wherein said third area is arranged immediately before or adjacent to said second area.

20. The recording medium according to claim 19, wherein a number of wobbles between said third areas is equal to or greater than 60 on the basis of the carrier wave as a reference.

21. A recording medium characterized in that

a track is divided into a first area continuously wobbled by a first wobble of a specific carrier wave wobble, a third area containing a third wobble that has the same cycle as said first wobble and has a phase different from said first wobble by 180 degrees, the third area having a length four times said specific carrier wave cycle, and a second area including a second wobble having a twice cycle and a twice length of said specific carrier wave, a relative generating position thereof being a position distant by twice the carrier wave cycle, the second wobble being assigned to phases different by 180 degrees, respectively, in response to data 0 and data 1 of information stored by a wobble, wherein said third area is arranged immediately before or adjacent to said second area.

22. The recording medium according to claim 21, wherein a number of wobbles between said third areas is equal to or greater than 80 on the basis of the carrier wave as a reference.

23. The recording medium according to claim 19, wherein the third wobble of said third area has a one-cycle length or four-cycle length of said specific carrier wave period, and the third wobble of said third

area arranged immediately before or adjacent to said second area has said one-cycle length and others have said four-cycle length.

24. A wobble cycle detection method characterized by multiplying wobble signals of the same signal obtained from wobbling of a track formed on a recording medium each other by a multiplier, and inputting a signal obtained by an operation of the multiplication into a band pass filter of which a pass band is set to about twice a frequency of a carrier wave so that a cycle twice an output signal of the band pass filter is set to a cycle of the carrier wave of the wobble signal.

25. A wobble information detection method characterized by a carrier wave processing procedure of extracting a frequency component of the first wobble from the first area of the recording medium according to claim 1, a special wave processing procedure of extracting a phase information component of the second wobble from the second area of said recording medium, an information detecting procedure of detecting the information stored by the wobble from the phase information component extracted by said special wave

processing procedure based on the frequency component extracted by said carrier wave processing procedure.

26. A wobble information detection method characterized by a carrier wave processing procedure of extracting a frequency component of the first wobble from the first area of the recording medium according to claim 8, a special wave processing procedure of extracting a phase information component of the second wobble from the second area of said recording medium, a synchronization processing procedure of extracting a phase information component of the third wobble of the third area of said recording medium, and an information detecting procedure of detecting the information stored by the wobble from the phase information components extracted by said special wave processing procedure and said synchronization processing procedure based on the frequency component extracted by said carrier wave processing procedure.

27. A wobble information detection method characterized by a carrier wave processing procedure of extracting a frequency component of a first wobble from the first area of the recording medium according to claim 1 and generating a clock of at least twice the

specific carrier cycle, a special wave processing procedure of extracting a phase information component of the second wobble from the second area of said recording medium based on at least the clock of twice said specific carrier wave cycle, and an information detecting procedure of detecting the information stored by the wobble from the phase information component extracted by the special wave processing procedure.

28. A wobble information detection method characterized by a carrier wave processing procedure of extracting a frequency component of a first wobble from the first area of the recording medium according to claim 8 and generating clocks of said specific carrier cycle and twice said specific carrier frequency, a special wave processing procedure of extracting a phase information component of the second wobble from the second area of said recording medium based on at least the clock of twice said specific carrier wave cycle, a synchronization processing procedure of extracting a phase information component of the third wobble from the third area of said recording medium based on the clock of said specific carrier wave cycle, and an information detecting procedure of detecting the information stored by the wobble from the phase information component

extracted by said special wave processing procedure in said second area of which position is specified based on the phase information component extracted by the synchronization processing procedure.

29. The wobble information detection method according to claim 27, wherein both a first demodulation and a second demodulation are performed in said second area, the first demodulation for detecting a phase or a frequency of the a wobble signal based on the clock of said specific carrier wave cycle, the second demodulation for detecting a phase or a frequency of the wobble signal based on the clock of twice said specific carrier wave cycle, and determines the data 0 and the data 1 of the information stored by the wobble based on results of both said demodulations.

30. A wobble information detection circuit characterized by comprising a wobble cycle detection circuit that detects a cycle of the carrier wave from a wobble signal obtained from wobbling of the track formed on the recording medium according to claim 1, a clock signal generation circuit that generates a second clock signal of a twice cycle of the carrier wave based on the cycle of the carrier wave detected by the wobble cycle

detection circuit, and a special wave wobble detection circuit that indicates a position or a phase of the second wobble of said second area based on said second clock signal.

31. A wobble information detection circuit characterized by comprising a wobble cycle detection circuit that detects a cycle of the carrier wave from a wobble signal obtained from wobbling of the track formed on the recording medium according to claim 8, a clock signal generation circuit that generates a first clock signal of a cycle of the carrier waver and a second clock signal of a twice cycle of the carrier wave based on the cycle of the carrier wave detected by the wobble cycle detection circuit, a synchronization signal detection circuit that detects a synchronization signal indicative of the third wobble of said third area based on said first clock signal, a position signal generation circuit that generates a position signal indicative of said second area on the basis of said synchronization signal as a reference, and a special wave wobble detection circuit that indicates a position or a phase of the second wobble of said second area based on said second clock signal in accordance with said position signal.

32. The wobble information detection circuit according to claim 31, wherein a phase or a polarity of said second clock signal is detected for each generation of said synchronization signal so as to match said second clock signal to a desired phase or polarity in accordance with a result thereof.

33. The wobble information detection circuit according to claim 31, wherein a phase or a polarity of said second clock signal is detected for each generation of said synchronization signal so as to determine a polarity of data demodulated from said second area in accordance with a result thereof.

34. The wobble information detection circuit according to claim 31, wherein a fourth wobble of said fourth area in said recording medium is demodulated based on said second clock signal so as to match said second clock signal to a desired phase or polarity in accordance a result thereof.

35. The wobble information detection circuit according to claim 31, wherein a fourth wobble of said fourth area in said recording medium is demodulated based on said second clock signal so as to determine a

polarity of data demodulated from said second area in accordance with a result thereof.

36. An information recording and reproduction apparatus characterized by being mounted with the wobble information detection circuit according to claim 30, wherein an access is made to a target position of said recording medium based on information detected by the wobble information detection circuit so as to perform recording or reproduction of information on said recording medium.

37. An information recording and reproduction apparatus characterized by comprising an optical pickup that irradiate a laser light onto the recording medium according to claim 1 and detects a reflection signal from said recording medium, a rotational drive mechanism part that rotationally drives said recording medium, a servo control system that controls a position of said optical pickup and a rotation of said recording medium by said rotational drive mechanism part based on detection information detected by said optical pickup, and information detecting means for detecting a position signal necessary for the servo control system and information stored in said recording medium based on the

detection signal detected by said optical pickup, wherein the information detected by said information detecting means is detected so as to perform recording and reproduction of information on said recording medium.